

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1(currently amended). A coated metal surface on a solid support, wherein the coating consists of a protein layer firmly attached to the metal surface, and said protein layer is coupled to linker molecules that are bound to low molecular weight antigens, wherein the linker molecules, ~~in addition to reacted end groups,~~ are coupled to the protein layer and are bound to the antigen via functional end groups and contain between the functional end groups an aliphatic hydrocarbon chain of 1, 2 or 3 carbon atoms, and wherein the antigens are optionally reversibly bound to antibodies specific for the antigens.

2(original). The coated metal surface on a solid support according to claim 1, wherein the metal is selected from the group consisting of gold, silver, aluminum, nickel, chrome chromium and titanium.

3(previously presented). The coated metal surface on a solid support according to claim 1, wherein the antigens are the same or different and are bound to the same protein layer or to different patches of protein layers and are selected from the group consisting of optionally derivatized explosives and narcotics.

4(original). The coated metal surface on a solid support according to claim 3, wherein the explosives are selected from the group consisting of trinitrotoluene (TNT), dinitrotoluene (DNT), hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazine (HMX), pentaerythritol tetranitrate (PETN), and nitroglycerine (NG).

Appl. No. 10/517,322
Amendment dated: December 30, 2008
Reply to OA of: July 31, 2008

5(currently amended). The coated metal surface on a solid support according to claim 3, wherein the narcotics are selected from the group consisting of cocaine, heroine, amphetamine, methamphetamine, cannabiols, tetrahydrocannabinols (THC), and methylenedioxy-N-methylamphetamine (~~extacy~~Ecstasy).

6(previously presented). The coated metal surface on a solid support according to claim 1, wherein the solid support is a piezoelectric crystal electrode or a glass plate or prism.

7(canceled).

8(withdrawn - currently amended). A method of detecting analyte antigens in an aqueous solution comprising activating, ~~if necessary~~, the coated metal surface on a solid support according to claim 1 lacking bound antibodies by bringing antigen-specific antibodies into contact with the coated metal surface in an aqueous solution, allowing binding of the antibodies to the antigens of the coating, removing excess antibodies, bringing the aqueous solution possibly containing the analyte antigens that have higher affinity to the antibodies than the antigens of the coating into contact with the antibodies reversibly bound to the coating, allowing the antibodies to dissociate and react with the analyte antigens, and detecting the loss of mass on the coated metal surface by means of an analysis device.

9(withdrawn). A method according to claim 8, wherein the analysis device is selected from the group consisting of a Piezoelectric Quartz Crystal Microbalance device and a Surface Plasmon Resonance biosensor.

10(withdrawn - previously presented). The method according to claim 8, wherein the analysis device comprises a flow cell in which the coated metal surface on a solid support is placed.

Appl. No. 10/517,322
Amendment dated: December 30, 2008
Reply to OA of: July 31, 2008

11(withdrawn - previously presented). The method according to claim 9, wherein the analysis device comprises a flow cell in which the coated metal surface on a solid support is placed.

12(new). A coated metal surface on a solid support, wherein the coating consists of a protein layer firmly attached to the metal surface, wherein the metal is selected from the group consisting of gold, silver, aluminum, nickel, chrome chromium and titanium, and said protein layer is coupled to linker molecules that are bound to low molecular weight antigens, wherein the linker molecules are coupled to the protein layer and are bound to the antigen via functional end groups and contain between the functional end groups an aliphatic hydrocarbon chain of 1, 2 or 3 carbon atoms, and wherein the antigens are reversibly bound to antibodies specific for the antigens.

13(new). The coated metal surface on a solid support according to claim 12, wherein the antigens are the same or different and are bound to the same protein layer or to different patches of protein layers and are selected from the group consisting of optionally derivatized explosives and narcotics.

14(new). The coated metal surface on a solid support according to claim 13, wherein the explosives are selected from the group consisting of trinitrotoluene (TNT), dinitrotoluene (DNT), hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazine (HMX), pentaerythritol tetranitrate (PETN), and nitroglycerine (NG).

15(new). The coated metal surface on a solid support according to claim 13, wherein the narcotics are selected from the group consisting of cocaine, heroine, amphetamine, methamphetamine, cannabiols, tetrahydrocannabiols (THC), and methylenedioxy-N-methylamphetamine (Ecstasy).

Appl. No. 10/517,322
Amendment dated: December 30, 2008
Reply to OA of: July 31, 2008

16(new). The coated metal surface on a solid support according to claim 12, wherein the solid support is a piezoelectric crystal electrode or a glass plate or prism, the antibodies are more weakly bound to the immobilized antigens than to an analyte antigen to be tested for by displacement of the antibody from the immobilized antigen.

17(new). The coated metal surface of claim 16, wherein the antibodies are monoclonal antibodies produced with the same immobilized antigen linked by a longer linker than the 1-3 carbon atom linker for the coating of the coated metal surface.

18(new). The coated metal surface of claim 17, wherein the antibody has sub-nanomolar affinity to the antigen.